

WHAT IS CLAIMED IS:

1. A system for monitoring the status and/or ice production of an ice making device, said system comprising:
 - at least one detector for determining said status and/or ice
 - 5 production of said ice making device, thereby producing detected status and/or ice production data;
 - a microprocessor; and
 - a transmitter for communicating detected status and/or ice production data from said detector to said microprocessor.
- 10 2. The system according to claim 1 further comprising:
 - an additional transmitter for communicating the detected status and/or ice production data from said microprocessor to a service provider.
- 15 3. The system according to claim 2, wherein said service provider is at least one provider selected from the group consisting of: ice making device repair provider, ice making device manufacturer, leasing agent and ice supplier.
- 20 4. The system according to claim 1, wherein said detector is an electronic monitoring unit.
5. The system according to claim 4, wherein said detected status data comprises at least an identification of said ice making device and said
- 25 ice making devices status.
6. The system according to claim 4, wherein said ice production data comprises at least an identification of said ice making device and at least one additional parameter selected from the group consisting of:
- 30 freeze/harvest cycle time and cycle count.

7. The system according to claim 2, wherein said transmitter and additional transmitter are at least one selected from the group consisting of: Internet, wired telephony, wireless telephony, cable, and any other device capable of communicating said status and/or ice production data from said detector to said microprocessor and/or from said microprocessor to said service provider.
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8. The system according to claim 1, wherein said microprocessor is capable of generating an invoice or having an invoice generated based upon said detected status and/or ice production data.
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9. The system according to claim 8, wherein said invoice comprises at least one charge selected from the group consisting of: ice making device repair service charge, bagged ice charges and ice production charge.
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10. The system according to claim 1, wherein said microprocessor is located remote from said ice making device.
- 20 11. The system according to claim 1, wherein said ice making device comprises a hot gas valve and a bin switch.
12. The system according to claim 11, wherein said detector comprises:
25 a first sensor for determining if said ice storage bin switch is either opened or closed;
 a second sensor for determining if said hot gas valve is on or off;
 a microprocessor for determining the freeze and/or harvest times for said ice making device to freeze and/or harvest ice during an ice making freeze/harvest cycle and/or the number of the freeze/harvest
30 cycles; and

a data generator which is capable of producing said status and/or ice production data.

- 5 13. The system according to claim 12, wherein said status and/or ice production data is at least one selected from the group consisting of: freeze cycle time, harvest cycle time, count of completed freeze/harvest cycles, and ice making device fault alert.
- 10 14. The system according to claim 13, wherein said ice making device fault alert is at least one selected from the group consisting of: when said freeze cycle time exceeds a predetermined maximum freeze cycle time limit, when the freeze cycle time is less than a predetermined minimum freeze cycle time limit, when the harvest cycle time exceeds a predetermined maximum harvest cycle time limit, and when the
15 harvest cycle time is less than a predetermined minimum harvest cycle time limit.
- 20 15. The system according to claim 1, wherein said status and/or ice production data communicated to said microprocessor is at least one selected from the group consisting of: identification of said ice making device, cycle time for said ice making device to complete a freeze and/or harvest cycle, the number of cycles which said ice making device has completed during the detection period, and status of said ice making device.
- 25 16. The system according to claim 1, wherein said microprocessor is capable of transmitting at least one data selected from the group consisting of: identification of said ice making device, location of ice making device, owner contact information, cycle time for said ice making device to complete a freeze and/or harvest cycle, the number
30 of cycles which said ice making device has completed during the

detection period, other operation data, status of said ice making device, operational history of ice making device, identification of parts likely to be need to repair ice making device, and probable cause of alert problem.

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17. A method for monitoring the status and/or ice production of an ice making device, said method comprising:

determining said status and/or ice production of said ice making device, thereby producing detected status and/or ice production data;
and

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communicating said status and/or ice production data from said detector to a microprocessor.

18. The method according to claim 17 further comprising:

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communicating the said status and/or ice production data from said microprocessor to a service provider.

19. The method according to claim 18, wherein said service provider is at least one provider selected from the group consisting of: ice making device repair provider and ice supplier.

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20. The method according to claim 17, wherein said determining step is performed by an electronic monitoring unit.

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21. The method according to claim 20, wherein said status data comprises at least an identification of said ice making device and said ice making devices status.

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22. The method according to claim 20, wherein said ice production data comprises at least an identification of said ice making device and at

least one additional parameter selected from the group consisting of:
freeze/harvest cycle time and cycle count.

23. The method according to claim 18, wherein said communicating steps
5 are at least one selected from the group consisting of: Internet, wired
telephony, wireless telephony, cable, and any other device capable of
communicating said status and/or ice production data from said
detector to said microprocessor and/or from said microprocessor to
said service provider.
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24. The method according to claim 17, further comprising generating an
invoice or having an invoice generated based upon said status and/or
ice production data from said microprocessor.
- 15 25. The method according to claim 24, wherein said invoice comprises at
least one charge selected from the group consisting of: ice making
device repair service charge, bagged ice charges and ice production
charge.
- 20 26. The method according to claim 17, wherein said microprocessor is
located remote from said ice making device.
27. The method according to claim 17, wherein said ice making device
comprises a hot gas valve and a bin switch.
- 25 28. The method according to claim 27, wherein said determining step
comprises:

determining if said ice storage bin switch is either opened or
30 closed;
determining if said hot gas valve is on or off;

determining the freeze and/or harvest times for said ice making device to freeze and/or harvest ice during an ice making freeze/harvest cycle and/or the number of the freeze/harvest cycles; and
generating said status and/or ice production data.

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29. The method according to claim 28, wherein said status and/or ice production data is at least one selected from the group consisting of: freeze cycle time, harvest cycle time, count of completed freeze/harvest cycles, and ice making device fault alert.

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30. The method according to claim 29, wherein said ice making device fault alert is at least one selected from the group consisting of: when the freeze cycle time exceeds a predetermined maximum freeze cycle time limit, when the freeze cycle time is less than a predetermined minimum freeze cycle time limit, when the harvest cycle time exceeds a predetermined maximum harvest cycle time limit, and when the harvest cycle time is less than a predetermined minimum harvest cycle time limit.

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- 20 31. The method according to claim 17, wherein said status and/or ice production data communicated to said microprocessor is at least one selected from the group consisting of: identification of said ice making device, cycle time for said ice making device to complete a freeze and/or harvest cycle, the number of cycles which said ice making device has completed during the detection period, and status of said ice making device.

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32. The method according to claim 17, wherein said microprocessor is capable of transmitting at least one data selected from the group consisting of: identification of said ice making device, location of ice making device, owner contact information, cycle time for said ice

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5 making device to complete a freeze and/or harvest cycle, the number of cycles which said ice making device has completed during the detection period, other operation data, status of said ice making device, operational history of ice making device, identification of parts likely to be need to repair ice making device, and probable cause of alert problem.

- 10 33. A method for monitoring an ice making device comprising a bin switch and a hot gas valve, said method comprising:
- determining if said ice storage bin switch is either opened or closed;
 - determining if said hot gas valve is on or off;
 - determining the freeze and/or harvest times for said ice making device to freeze and/or harvest ice during an ice making freeze/harvest cycle and/or the number of the freeze/harvest cycles; and
 - generating said status and/or ice production data.
- 20 34. An electronic device which is capable of monitoring an ice making machine having a bin switch and a hot gas valve, said device comprising:
- a first sensor for determining if said ice storage bin switch is either opened or closed;
 - a second sensor for determining if said hot gas valve is on or off;
 - a microprocessor for determining the freeze and/or harvest times for said ice making device to freeze and/or harvest ice during an ice making freeze/harvest cycle and/or the number of the freeze/harvest cycles; and
 - a data generator which is capable of producing said status and/or ice production data.
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